### WELDING

**Career Pathway**: Production

**Program**: Advanced Welding Technical Diploma

Most Courses Offered at Elkhorn and Racine Campuses

Federal regulations require disclosure of the following information for this program:

1. **Books and Supplies**: $940
2. **Tuition and Fees**: $6,100
3. **Median Loan Debt**: $0
4. **On-time Graduation Rate**: 18%

[Available at http://www.onetonline.org](http://www.onetonline.org)

#### Minimum Program Total Credits Required

32

Courses may be taken out of suggested sequence as long as requisites have been met.

<table>
<thead>
<tr>
<th>Suggested Sequence</th>
<th>Course Number</th>
<th>Course Title</th>
<th>Requisites</th>
<th>Credits</th>
<th>Hrs/Wk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester 1</td>
<td>442-321</td>
<td><em>Welding / Gas Metal Arc Welding</em></td>
<td></td>
<td>3</td>
<td>2-4</td>
</tr>
<tr>
<td></td>
<td>442-322</td>
<td><em>Welding / Shielded Metal Arc Welding</em></td>
<td></td>
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<td>2-4</td>
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<tr>
<td></td>
<td>442-323</td>
<td><em>Welding / Gas Tungsten Arc Welding</em></td>
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<td>3</td>
<td>2-4</td>
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<tr>
<td></td>
<td>442-324</td>
<td><em>Welding Printreading &amp; Fab. Procedures</em></td>
<td></td>
<td>2</td>
<td>2-2</td>
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<tr>
<td></td>
<td>442-334</td>
<td><em>Welding / Oxyacetylene</em></td>
<td>Prereq: 851-760 (See Note 1)</td>
<td>3</td>
<td>2-4</td>
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<tr>
<td></td>
<td>625-125</td>
<td><em>Workplace Safety A MSSC</em></td>
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<td>801-301</td>
<td>Writing Principles</td>
<td>Prereq: 851-760 (See Note 1)</td>
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<td></td>
<td>804-370</td>
<td>Mathematics I / Applied</td>
<td>Prereq: 854-760 (See Note 1)</td>
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<td>Semester 2</td>
<td>442-302</td>
<td><em>Metal Fabrication I</em></td>
<td>Prereq: 442-324</td>
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<td>442-329</td>
<td><em>Welding / Advanced Oxyacetylene</em></td>
<td>Prereq: 442-334</td>
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<td>2-2</td>
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<td>442-330</td>
<td><em>Welding / Adv. Shielded Metal Arc Welding</em></td>
<td>Prereq: 442-322</td>
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<td>442-332</td>
<td><em>Welding / Adv. Gas Metal Arc Welding</em></td>
<td>Prereq: 442-321</td>
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<td>4-2</td>
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<td></td>
<td>442-333</td>
<td><em>Welding / Adv. Gas Tungsten Arc Welding</em></td>
<td>Prereq: 442-323</td>
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</tbody>
</table>

**Minimum Program Total Credits Required**: 32

**Courses may be taken out of suggested sequence as long as requisites have been met.**

**Notes**

1. **Median Loan Debt**: Based on eligibility, students can receive loans to help pay for the total cost of attending college. The cost is comprised of tuition and fees, books and supplies, transportation costs, room and board, and miscellaneous personal expenses. Therefore, medial loan debt may be more than the listed tuition, fees, books, and supplies cost.

2. **On-time Graduation Rate**: Dependent upon students' choice to attend college part-time or full-time. Students decide to attend college part-time for a number of reasons including work schedule/demands and family responsibilities. 76 percent of students at Gateway attend part-time, therefore taking longer to complete their chosen program of study.
PROGRAM DESCRIPTION

Welding provides concentrated instruction, primarily through practical experience, on various welding techniques. The following processes are covered: O-A-Oxyacetylene welding, brazing, and cutting; GMAW-gas metal arc welding (wire, MIG, short arc); GTAW-gas tungsten arc welding (TIG, heliarc); SMAW-shielded metal arc welding (stick, arc), including plasma arc cutting; and robotic welding and cutting.

PROGRAM LEARNING OUTCOMES

Graduates of the Welding Technical Diploma Program should be able to:

1. Prepare three groups of metal plate (stainless steel, aluminum, and mild steel) for a butt joint.
2. Use correct filler wire on welding machines.
3. Use and demonstrate proper safety gear and equipment.
4. Prepare pipe coupons for welding.
5. Use a WPS for AWS D1.1 and ASME Sec IX.
6. Correctly program housekeeping codes for processes used.
7. Have robots perform operations with 100% accuracy.

ADMISSION REQUIREMENTS

1. Students must submit an application & $30 fee.
2. Students must complete reading, writing, math, and computer skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

GRADUATION REQUIREMENTS

1. Minimum 32 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these major courses.

For a complete list of Graduation Requirements check the Student Handbook.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Safety glasses are required in labs. If prescription glasses are required, allow a minimum of 90 days.
3. A hand calculator capable of trigonometric functions is recommended for 442-324; the cost is approximately $20.
4. Students are required to have an arc welding helmet, oxy-acet goggles, chipping hammer and welding gloves (leather); the cost is approximately $50. Students must be prepared to bring their own equipment.
5. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).
6. Metal fabrication skills may also be enhanced by enrolling in 442-336 Metal Fabrication II.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

1. Act responsibly
2. Communicate clearly and effectively
3. Demonstrate essential comp. skills
4. Demonstrate essential math skills
5. Develop job seeking skills
6. Respect themselves and others as a member of a diverse community
7. Think critically and creatively
8. Work cooperatively
9. Value learning

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult Web Advisor for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.

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To schedule an appointment with an advisor, please call 1-800-247-7122.

For a complete list of course descriptions (and possible online courses) for this program, please consult Web Advisor on our web page at www.gtc.edu.

My advisor is __________________________. My advisor’s contact information is __________________________.